

ENGINEERING STANDARDS UPDATE

Because [Standards Know-How Isn't Just for Nerds](#)

Topics this month:

- Training & Qual
- Engineering Processes
- ML-3 Basic Receipt Inspection (PNV)
- LANL Standards Issued in December
- DOE Technical Standards Actions
- When Good Conduct of Engineering Isn't Followed

The Standards Homepage (on the LANL public website): <http://engstandards.lanl.gov/>

TRAINING & QUAL

Standards Intro Course 24140 – Wed, Jan 25

Don't miss this rare offering. Provides familiarity with national and LANL engineering standards for anyone performing, reviewing, or managing design activities. Also recommended for those at local AE firms. Given at C-Division auditorium (TA-46, Building 535, Room 103), runs 8 a.m.– 4 p.m. by yours truly. You'll need to print your own handout and bring it; Mike Brazile will email the file and instructions a few days prior. Waitlisters are already enrolled.

Electrical Standards Course 17998 – Thurs, March 16

Four-hour course 17998 covers the electrical engineering standards in Chapter 7 of the LANL Engineering Standards Manual and discusses mandatory requirements and good practices for those involved in electrical design. Strongly suggested for electrical designers, electrical engineers, electrical safety officers, and facility managers. AEs are also encouraged to attend. Taught by Electrical Standards POC Eric Stromberg on Thurs, Mar 16, 7:30–11:30 am, Otowi Building 03-261, "Main Gate" Classroom Rm. F200W.

To register for LANL courses, sign up via [UTrain](#) (AEs without cryptocard via Yolanda Trujillo at 665-5696 or ytrujillo@lanl.gov with Z number).

- On [UTrain](#) click on the "catalog" tab and select "advanced catalog search"
- Enter course number as the "ID", then "search"
- Add-to-do-list
- Go to your to-do-list and click on 'register'

Disenroll a similar way.

CSE-PrE Qualification Standard Revised

If you're a potential CSE, PrE (process engineer in a nuke), or just a wanna-be either, the CSE-QS-004, R2, CSE-PrE Qualification Standard was revised thanks to Mike Brazile and Mel Burnett, and posted on the CoE [T&Q webpage](#).

ENGINEERING PROCESSES

[Jeff Fauble](#) is now on board, currently sitting downtown, and filling Gurinder's shoes. He's already getting loaded up, but don't hesitate to contact him for anything to do with the CoE APs—help, interpretation, change ideas, or variance/alternate method requests. jfauble@lanl.gov or 665-0595.

Also: **VAR-10107, Allow DCF Log to be generated with an EDMS report**, has been posted to AP-341-517. Thanks to requestor Jared Milliorn (who's now on the hook to get the new report working so everyone can do business this way if they like).

ML-3 BASIC RECEIPT INSPECTION (PNV)

From Miller Collins to the QSMEs and TSMEs (those trained on procurement) in an email on 1/4/17: Hello everyone – QPA-DO in conjunction with the ES-DO Conduct of Engineering Office has developed a new process for receipt inspection of ML-3 items for when the TSME only requires part (or model) number verification (PNV). Under this ML-3 scenario, a pre-approved Exhibit H is available for use on the Exhibit H webpage under "Exhibit H Toolkit":

<http://int.lanl.gov/org/padops/admaser/quality-performance-assurance/institutional-quality-assurance/supply-chain-quality/procurement/index.shtml>

Additionally, when using said pre-approved Exhibit H for such ML-3 purchases, no Form 1952 for receipt inspection is required. Under these circumstances, the receipt inspection criteria is included within the QPA-DO receipt inspection procedure.

Be advised that the subject pre-approved Exhibit H only has two quality clauses selected (QC-17A for Catalog Data and QC-27 for Suspect/Counterfeit Items [S/CI] controls). If you need a Certificate of Conformance (QC-06) or have any need for other quality clauses for ML-3 item purchases, this pre-approved version cannot be used. Also note that there are two versions (see attached). These versions are identical except for sections IV and V (where one Exhibit H selects "Yes" for the potential to affect nuclear/radiological safety and for NQA-1 applicability [e.g. for OEITS, now called OHC items]; and one Exhibit H is selected as "No" in both sections). If either of these Exhibits H are used, pick the appropriate version, bearing in mind that they are intended for iProcurement Non-Catalog orders and applicable P-Card Exceptions processed in accordance with P840-1.

The background for developing this process and the pre-approved Exhibits H is based on recent changes invoked by DOE in coordination with the LANL Safety Basis organization and ES-DO where a portion of the ML-3 definition previously dealing with "OEITS" and "active" (not passive) Structures, Systems, and Components (SSC) was changed in AP-341-502 (ref. Variance VAR-16-011 Rev 1) to read as follows, "SSC of Hazard Category 2 or 3 Nuclear Facility that is designated Other Hazard Control (OHC) in the DSA". You'll note that the OHC term, by making no distinction, includes both passive and active SSC. Because it's anticipated that as a result of this change, more items will be designated as ML-3 than was previously the case, an alternative and more efficient process has been developed to handle the potential increase in required ML-3 receipt inspections.

Let me know if you have any questions about the attached [see them on webpage linked above] pre-approved Exhibits H for ML-3 items requiring PNV only or if you have questions about the overall process. If you have any questions concerning the ML-3 definition change per VAR-16-011 Rev 1 against AP-341-502, contact Mel Burnett.

LANL STANDARDS ISSUED IN DECEMBER

ESM STD-342-100	
Ch. 5 Structural, Section II, Commercial Design and Analysis Requirements Rev. 10	Programmatic anchorage flowchart superseded by Ch.16. Other changes to App. A, mostly A.13 anchorage drawing requirements (and incorporates and supersedes CIR-16-002 on seismically exempt anchors). Added App B on small offsite-built structures (incorporates and supersedes Clarification CIR-16-004). Thanks to Alt POC Glen Pappas, Larry Goen, and others.
Ch. 13, Welding, Joining & NDE, Vol.6 NDE , WIGN 6-02 Att. 3 Written Practice for NDE Personnel Qualification & Certification, Rev. 3	Para 7.B.1 changed from "three" to "five" and updated Table I, both to meet current (2016) ASNT SNT-TC-1A recommendations; replaced P330-8 with P330-5; admin changes. Thanks to SME David Harvey and POC David Bingham.
Ch. 16 IBC Program reference: LBO Approved Listing	Updated.
Ch. 17 Pressure Safety	Posted 3 previously approved amendments under ADMIN-2: VAR-2015-032 re Conflat flange fittings, VAR-2015-045 Alternate Method for Relief Devices, and interpretation ESM-CIR-2015-005 ASME Code Stamped

Master Specifications STD-342-200	
25 0519-R0 Low Voltage Electrical Conductors and Cables For BAS Electrical Systems	Initial issue. Thanks to POC Allen Hayward and those that helped him on these.
25 0529-R0 Hangers and Supports for BAS	
25 0533-R0 Raceways and Boxes for BAS electrical Systems	
25 0553-R0 Identification for BAS Electrical Systems	

DOE TECHNICAL STANDARDS ACTIONS

DOE Tech [Stds](#) activity in the past month:

These are all important documents, and LANL uses most of these, but the adoption process/timeline varies for each and is soon but not immediate. Follow written direction in ESM Ch 1 Z10 and elsewhere for direction, and consult affected POC with any questions.

[DOE-STD-1073-2016](#) Configuration Management. This Standard provides the criteria and objectives for developing a configuration management (CM) process for design, construction,

operation, and post-operation of a DOE facility or activity. It also includes examples and methods for achieving those criteria and objectives. The criteria and objectives presented in this Standard are based on industry practice and CM experience at DOE facilities.

[DOE-STD-1066-2016](#) Fire Protection. The purpose of this Standard is to facilitate implementation of Department of Energy (DOE) Order (O), 420.1C, Facility Safety, by providing criteria and guidance for a standard and acceptable approach to meet the DOE O 420.1C requirements for fire protection programs (FPPs). This Standard addresses special or unique fire protection issues at DOE facilities that are not comprehensively or adequately addressed in national consensus standards or other design criteria.

[DOE-STD-1189-2016](#) Integration of Safety Into the Design Process. This Standard (STD) provides requirements and guidance for the integration of safety into the design process for Department of Energy (DOE) Hazard Category (HC) 1, 2, and 3 nuclear facilities as defined in 10 Code of Federal Regulations (CFR) Part 830, Nuclear Safety Management. This Standard specifies the requirements and responsibilities for project management, engineering/design, and safety analysis, and their interactions essential for successful integration of safety into design and construction. The Standard also specifies the engineering and design process, as well as key interfaces required for the integration of safety into design.

[DOE-STD-1104-2016](#) Review and Approval of Nuclear Facility Safety Basis and Safety Design Basis Documents. This Standard describes a framework and the criteria to be used for approval of (1) safety basis documents, as required by 10 Code of Federal Regulation (CFR) Part 830, Nuclear Safety Management, and (2) safety design basis documents, as required by Department of Energy (DOE) Standard (STD)-1189-2016, Integration of Safety into the Design Process.

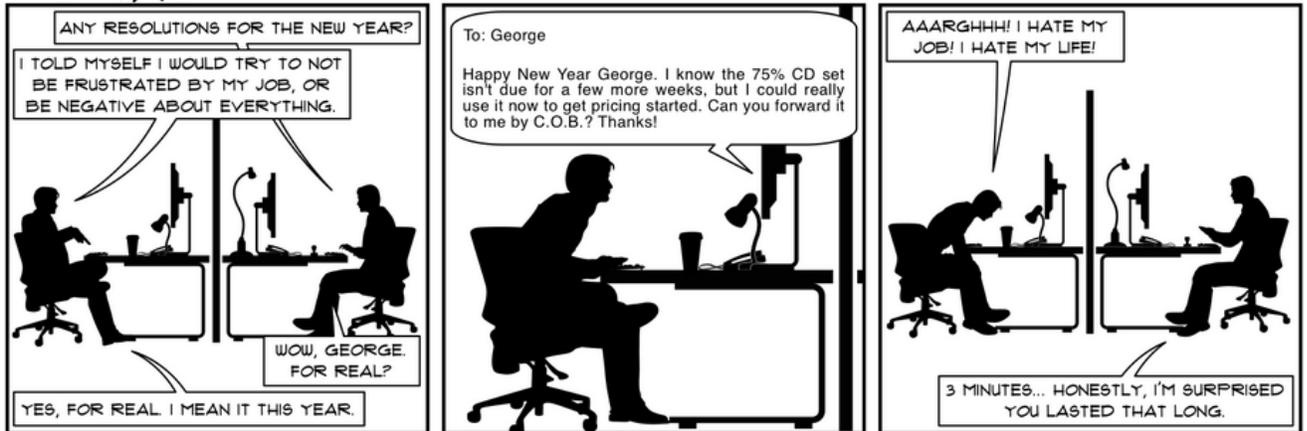
[DOE-STD-1186-2016](#) Specific Administrative Controls. This Standard provides requirements and guidance on acceptable methods for developing and implementing Specific Administrative Controls (SACs) at nuclear facilities operated by the Department of Energy (DOE).

WHEN GOOD CONDUCT OF ENGINEERING ISN'T FOLLOWED

I know readers like cartoons and don't always read all the prose in this newsletter. I know that because I'm often explaining things over the phone that were covered in the previous Updates. I hate to feed into that poor CoE, but these two are time-sensitive so I'm running them both!

RESOLUTIONS FOR 2017

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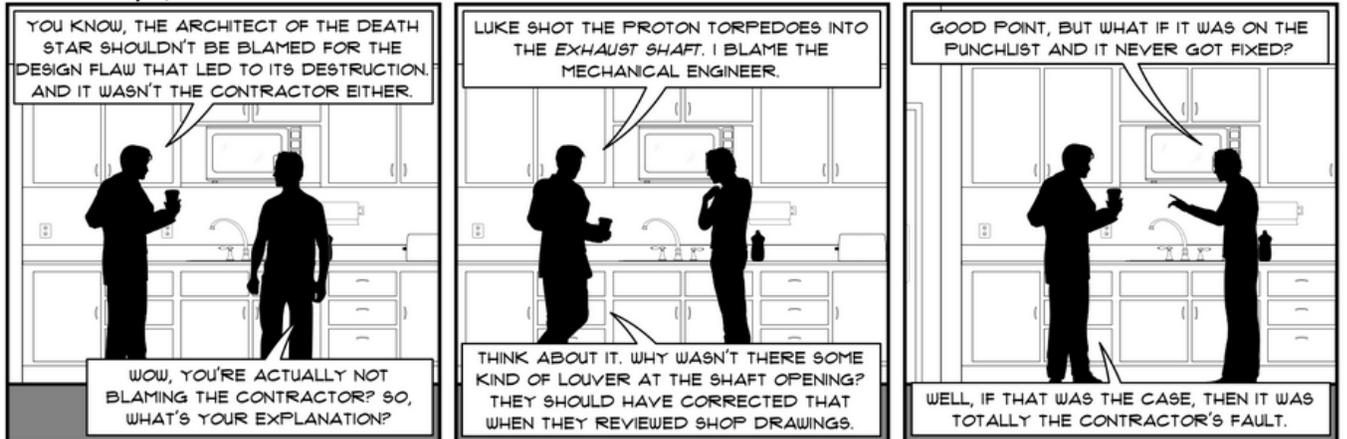


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STAR WARS

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LAST MONTH'S UPDATE TOPICS

Miss an issue? The archive is at "Monthly Update" on the Standards homepage. Last month's topics:

- Training
- Drawing on E-Sigs
- Variance Central
- Engineering Processes Changes
- LANL Standards Issued in November
- O&M Criterion Changes
- National Standards Changes
- DOE Technical Standards Actions
- When Good Conduct of Engineering Isn't Followed

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